DOCUMENT RESUME

ED 150 664 CS 501 998

AUTHOR Phelps, Lynn Alan; Dindia-Webb, Kathy
TITLE Experience-Based Learning Versus Cognitive Input in the Basic Interpersonal Communication Course: An Empirical Examination.
PUB DATE Dec 77
NOTE 23p.; Paper presented at the Annual Meeting of the Speech Communication Association (63rd, Washington, D.C., December 1-4, 1977)

EDRS PRICE MF-$0.83 HC-$1.67 Plus Postage.
DESCRIPTORS Activity Learning; *Communication Skills; *Comparative Analysis; Course Evaluation; Higher Education; *Interpersonal Competence; Interpersonal Relationship; Lecture; *Speech Communication; *Teaching Methods; *Test Construction; Test Validity

ABSTRACT

This paper examines the effectiveness of three methods of teaching interpersonal communication (lecturing, using interpersonal exercises, and using exercises that require the application of interpersonal skills) and the relationships among students' test scores on examination questions dealing with knowledge, comprehension, and application skills. The paper first discusses the invalidity of previous tests designed to measure application of interpersonal skills, outlines the procedures through which new test items were developed, and provides examples of typical test items. It then describes a study in which identical tests containing knowledge, comprehension, and application items were administered to students in three sections of an interpersonal communication course, each of which had been taught by one of the three methods under study. Analysis of the results indicated that the application class scored significantly higher than either the lecture or exercise classess. Results also indicated that there were significant differences in test scores among the three classes and among the three types of test questions, but that there was not a significant interaction between type of class and type of test question. (GW)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

ED150664

EXPERIENCE-BASED LEARNING VERSUS COGNITIVE INPUT IN THE BASIC INTERPERSONAL COMMUNICATION COURSE: AN EMPIRICAL EXAMINATION

Lynn Alan Phelps
Miami University

and

Kathy Dindia-Webb
Miami University

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Lynn Alan Phelps
Kathy Dindia-Webb

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC) AND USERS OF THE ERIC SYSTEM."

paper presented to

Speech Communication Association Convention

Washington, D. C.

December, 1977

CS501 998

The plethora of interpersonal communication courses during the last decade has provided the impetus for reexamination of the teaching and testing procedures appropriate for the basic interpersonal course. Coupled with the recent trend towards accountability demands and grade inflation, many departments are examining new procedures. Basic interpersonal communication courses presently range along a continuum from "pure lecture" courses to courses which are "purely experimental" in design, with most courses being a combination of lecture, discussion and exercises. Evaluation procedures also range from straight cognitive examinations to procedures which allow students to evaluate their own communication behaviors. Some instructors even take the position that evaluation in a basic interpersonal course is foreign to the purpose of the course and should not be done at all.

The purpose of this study is twofold: to examine the relationship among three teaching methods (lecture, exercise and application) and to examine the relationship among students' test scores on three types of examination questions (knowledge, comprehension and application).

TYPE OF TEACHING PROCEDURES

Along with the plethora of basic interpersonal communication courses has been a proliferation of teaching procedures. Some instructors maintain that basic interpersonal communication courses should have as a primary goal the development of interpersonal skills. Bochner and Kelley (1974, p. 291) state that interpersonal skills "are viewed as output variables, i.e., desirable end products of learning in interpersonal communication courses." Based upon the goal of the course, instructors utilize teaching procedures which range along the continuum from lecture

to experiential. Patton and Giffin (1977, p. 46) state that interpersonal "development requires both theory and the opportunity for practice of behaviors with feedback." Johnson (1972, p. 71) reiterates the need for the development of skills when he states that "skill practice will increase your ability to develop and maintain effective interpersonal skills." But the literature provides little evidence to support the claim that practicing a skill is crucial for its development. As Bochner and Kelley (1974, p. 291) state: "As teachers, our goal is to design teaching-learning strategies which will maximize the probability that each learner will manifest these skills." But, more important, is the absence of literature comparing alternative teaching methods in the basic interpersonal course.

TYPE OF TESTING PROCEDURES

Bloom's (1956) cognitive taxonomy provides a classification of behavioral objectives which includes objectives dealing with the recall or recognition of knowledge and the development of intellectual abilities and skills. The taxonomy is arranged in a hierarchy with each succeeding classification requiring the skills and abilities of the lower classifications. The lowest level of the cognitive domain is knowledge. Knowledge is the recall of specific facts, principles, theories and concepts. Comprehension, the second level of the taxonomy, is synonymous with the understanding of the literal message contained in a theory or principle. The third level of the taxonomy is application. It is defined as the use of an abstraction in particular and concrete situations. According to the taxonomy, theories must be remembered and understood in order to be applied in a student's life.

As stated earlier, one assumption upon which the basic interpersonal

communication course is often based, is that what is learned, is intended for application in the student's life. By testing we should be able to determine if a student's behavior after instruction in interpersonal communication meets this objective. Powever, traditional tests in the basic interpersonal communication course often occur at the lowest level of Bloom's taxonomy, the knowledge level, where multiple choice and true/false questions are used to test recall or recognition of concept. There is little evidence to indicate that knowledge of an interpersonal concept certifies the application of that concept. As Gronlund (1970) implies, in order to determine if students are able to apply interpersonal communication, we must test them at the third level of Bloom's taxonomy, the application level, which assesses the student's ability to apply learned material, in new and concrete situations.

REVIEW OF LITERATURE

KNOWLEDGE, COMPREHENSION AND APPLICATION

Tortoriello and Phelps (1975) examined the relationship between the student's knowledge and "application" of interpersonal communication. Using a multiple choice examination, fifteen questions testing "application" were given in conjunction with 75 or 85 traditional knowledge items (recall). Correlations between knowledge scores and "application" scores for four sets of examinations (N=1200) were .47, .42, .37 and .42. Tortoriello and Phelps (1975, p. 48) conclude "the low correlations between cognitive scores and the practical application instrument scores suggest that we may not be teaching skills, and the students may not become more effective interpersonal communicators having completed the typical interpersonal course."

Miller (1977) questioned the interpretations of the low correlations. Because "application" was tested by 15 items and knowledge by 75 or 85 items, one variable was highly truncated. As Miller states:

> The net impact of truncation is that the application component is highly limited in terms of the number of scores that students can obtain while the cognitive component is not. In short, the opportunity for score variability in one variable is minimized while opportunity for variability in the other is maximized. Nunnally (1975, pp. 152-153), Bloomers and Lindquist (1960, pp. 401-402) and Runyon and Jaber (1967, p. 87) all acknowledge that spuriously low correlation coefficients result from restricting the range of values of one of the variables. Thus, there is reason to believe that the actual magnitude of the several correlations is higher than Tortoriello and Phelps report.

Secondly, Miller points out that while Tortoriello and Phelps report "low correlations" the ccefficients are all significant at the .05 level.

Miller (1977) designed 15 test items to measure "knowledge" and 15 to measure "application" of interpersonal communication. The test items were administered to 100 students and were representative of the test materials with each concept tested in both "recall" and "application" form. Correlational analysis indicated a significant positive relationship (.62) between "knowledge" and "application" of interpersonal communication. Regression analyses demonstrated that we can predict "application" from "recall" or visa versa (0.06), but that the rate of improvement in "application" is higher when predicted from "recall" (.68) than "recall" predicted by "application" (.56).

In both studies, the experimenter has constructed a test to measure both knowledge and application of interpersonal communication. But, a look at the test items will show that the test items designed to measure application were really measuring <u>comprehension</u>.

Two "application" items included in Tortoriello and Phelps' paper were as follows:

> For a while the members did their own work individually with only occasional group meetings. The week their project was due, they met at Wally's apartment to put the project together. Sam even came. The project presentation went well and the

group soon had everything under control. Wally's apartment was more conducive to relaxation than for work, so the group stayed after the work session and began to talk. Sam finally opened up and confessed why he had been so grouchy during the first meetings. He felt that Bill tried to force him to complete an assignment in which he had no interest. He felt that June's silence meant that she couldn't care less about him or the project. When Sam was given an individual project, he was hurt because he saw himself being manipulated. Wally's popularity and easy manner had long been the object of Sam's envy, and when Wally didn't stand up for Sam, Sam felt that Wally was acting as if he (Wally) were better than Sam.

Students were given the following instructions:

In Sam's confessions, we see that Sam became defensive because he felt that certain members were exhibiting qualities that produced defensive behavior. Match the member with the condition or cause of defensive behavior which Sam thought they were exhibiting.

Questions 1 - 6:
1. Evaluative
2. Control
3. Superiority
4. Strategems
5. Lack of Concern
6. Dogmatism

These are the answers for questions 1 - 6:
A. Bill
B. June
C. Susan
D. Wally
E. None of the Above

Suzie was the only student seated at the long rectangular table. Nonetheless, Ned gestured to Don that they should sit by Suzie. Don plopped his tray of food to Suzie's immediate left, Ned to her right. Once they had established their presence, they walked over to get some milk.

Ned mumbled to Don, "She's the kind that will split before we get back." When they returned, there was Suzie smiling and cheerful. Don chuckled. Ned gulped his food silently, and the fellows were gone in no time.

After reading the paragraph, the student is asked to respond to the following question:

Which of the following concepts will explain what Ned mumbled.

a. the occasion was not conducive to more pleasant conversation
b. as proximity increases attraction decreases
c. our "internal state" makes us respond differently to the same situation
d. the "horns effect" makes us judge another low in all personality traits
e. we constantly infer judgments about the future events of others

The first two of the fifteen test items to measure application in Miller's research were as follows:

16. Paul and Beth, close friends, have recently had a disagreement. One night at dinner Beth tried to explain her behavior in terms of her present feelings and her immediate perception of the situation. Her communicative attempt is an example of:
    a. Revealing communication
    b. Confessing communication
    c. Self-disclosing communication
    d. Strategic communication
    e. "History" type communication

17. You and your best friend Lynn, after a long talk about your feelings toward each other, begin to share some negative reactions to each other's behavior. You have built a high level of trust.

    Lynn says to you, "You know, for a long time now I've wanted to mention something to you that bothers me, but I was afraid you'd take it the wrong way. I feel that after this talk I can tell you. Did you know that you hardly ever let people finish a sentence? You interrupt before they're through talking. You do it to me and it really bothers me."

    Your response: "I'm glad you told me. I didn't know that."

    According to Joseph Luft and Harry Ingham, which quadrant of the "Johari Window" has just been <u>decreased</u> for you?

    a. Quadrant 1
    b. Quadrant 2
    c. Quadrant 3
    d. Quadrant 4
    e. Quadrants 2 and 3

In all four test items, the student is asked to identify an example,

instance or operationalization of a theory. For example, the student has to understand that forcing Sam to complete an assignment in which he has no interest is an example of control.

The "application" items in Tortoriello and Phelps' and Miller's studies actually occur at the second level of Bloom's taxonomy, comprehension. Bloom (1956) stated that comprehension may be evaluated by questions requiring students to recognize correct illustrations or examples. Gronlund (1970) also stated that to give an example of a principle tests comprehension, not application.

The ability to identify an example or a theoretical concept possibly correlates with being able to apply that theoretical concept. However, at this point in time, there is no established link between being able to identify an operationalization of an interpersonal communication theory and being able to use or apply that theory. There is no evidence indicating that comprehending an interpersonal communication concept certifies that the individual will be able to apply it correctly.

The test items designed to measure application are consequently invalid because while they may reliably measure the students' comprehension of interpersonal communication, they do not measure their application of interpersonal communication. A similar example by Kerlinger (1973, pp. 458-459) supports this point:

> For example, an educational investigator, testing hypotheses about the relations between social studies achievement and other variables, may assume the content validity of his social studies test. The theory from which the investigator derived his hypotheses however, may require an understanding and application of social studies ideas, whereas the test he used may be almost purely factual in content. His test lacks content validity for his purpose. In fact, he is not really testing the hypotheses he thinks he is testing.

PROCEDURE FOR DEVELOPING TEST ITEMS

By adapting Bloom's (1956) and Gronlund's (1970) we operationalized the theoretical variables, knowledge, comprehension and application for interpersonal communication. The outline below demonstrates how the theoretical variables were operationalized in this study. Roman numerals stand for theoretical variables, numbers stand for operationalization.

I. Knowledge of basic theories and terms in interpersonal communication.*
   1. Relates terms that have the same meaning.
   2. Selects the best definition that fits a particular term.
   3. Selects the term that fits a particular definition.
   4. Relates particular principles, generalizations, theories, facts as presented in text or lecture.

II. Comprehension of interpersonal communication concepts and principles.
   1. Identifies example of interpersonal communication concepts and principles.
   2. Describes interpersonal communication concepts and principles in his/her own words.
   3. Points out the interrelationship of interpersonal communication principles.
   4. Explains interpersonal communication situations in terms of the interpersonal communication theory involved.

III. Application of interpersonal communication principles to new situations.
   1. Identifies the interpersonal communication theory needed to solve a new problem.
   2. Describes how to solve a practical problem in terms of interpersonal communication theory involved.
   3. Identifies the correct behavior according to interpersonal communication theory.
   4. Chooses the most appropriate interpersonal strategy for a given situation.
   5. Chooses the most appropriate course of action according to interpersonal communication theory.

Constructing actual test items, according to Gronlund (1970, p. 43), would involve:

*This outline was adapted from a similar outline from Gronlund (1970, p. 40).

(1) Selecting the theoretical variable.

(2) Selecting one of the operationalizations of the theoretical variable.

(3) Selecting the information to be tested.

(4) Constructing a test item that calls for the specific behavior indicated in the operationalization.

Two examples, using the same interpersonal concept, tested at the knowledge, comprehension and application levels of Bloom's taxonomy would be:

DEFENSIVENESS

KNOWLEDGE

According to Patton & Giffin, the basic cause of defensiveness is:

a. one's feelings of social alienation
b. interpersonal distrust
c. lack of supportive feedback from others which is needed to achieve a satisfactory self-image
d. speech anxiety
e. inability to communicate effectively

COMPREHENSION

Label the following statement: "You may think you know what's right, but you're just a kid. I'm older and I know better."

a. Controlling
b. Evaluative
c. Strategy
d. Superior
e. Dogmatic

APPLICATION

How should the following be phrased so as not to cause defensiveness?

a. Kathy, I'd suggest turning that radio off. I heard Dad say that if he catches you studying with the radio on one more time, he'll punish you.
b. Kathy, I realize you like to study with the radio on, but I find it very distracting. Could you turn it off or turn the volume down?
c. Man, that is really stupid trying to study with the radio on! Turn it off!
d. Kathy, I'm older and have had more experience than you, so when I tell you to turn off the radio, you should do as I say.
e. Kathy, this is my bedroom and when I say turn the radio off, I mean it.

FACADES

KNOWLEDGE

A self-defeating approach to maintenance of self-esteem is:
a. trying to hide parts of ourselves from others
b. pretending to be something we are not
c. self-exposure and evaluative feedback
d. both a and b
e. all of the above

COMPREHENSION

From the beginning of the relationship John has always given Marsha the impression that he is a "Man of the world." (He seems to know a lot of people, always knows what to do in fancy restaurants, talks about his many female conquests, etc.). In reality, John has only superficial relationships, is nervous in formal situations and has had only a few girlfriends. He is using which of the self-defeating methods of building self-esteem?
a. Pretense
b. part-person
c. cognitive dissonance
d. self-fulfilling prophecy
e. moving away from others

APPLICATION

John is always "putting on an act" when interacting with Marsha. Which of the following should Marsha do to help John stop "putting on an act?"
a. Marsha should "put on an act" when she interacts with John.
b. Marsha should not "put on an act" when she interacts with John.
c. Marsha should ignore John when he "puts on an act."
d. Marsha should tell John to stop "putting on an act."
e. Marsha should encourage John to seek professional help.

PROCEDURE

Students were enrolled in three sections of basic interpersonal communication. A pretest was administered to determine if the three sections were equivalent in their knowledge of interpersonal communication. The means on a 60 item examination were 29.2, 29.1 and 28.8 with the resulting F nonsignificant. The instructional methods of lecture, exercises and application were randomly assigned to the three sections.

All sections used Patton and Giffin's Interpersonal Communication In Action (Harper & Row, p. 197). The exercise section also used Phelps and DeWine's Interpersonal Journal (1976) which is a collection of exercises.

The lecture section comprised both lecture and discussion with the majority of time being spent in lecturing to the class. Any discussion that took place in the class focused on the lecture material. The exercise section was divided evenly between lecture discussion and interpersonal exercises. The exercises followed the format prescribed by Phelps and Dewine's instructor's manual. This called for engaging in an exercise followed by debriefing and discussing the exercise with the students. The application section was divided evenly between lecture/discussion and application of the interpersonal skills. The operationalization of "application" was derived from Johnson's (1972, p. 6) five-step process for learning a new skill:

1. Becoming aware of the need for and uses of a new skill.,
2. Identifying the behaviors involved in the new skill.
3. Practicing the behaviors.
4. Receiving feedback concerning how well you are performing the behaviors.
5. Integrating the behaviors into your behavioral repertoire.

An example of an application of Communicating Supportiveness is included below.

Application Exercise: Communicating Supportiveness

1. Get into trios. Two individuals will engage in a discussion; one person will observe. The role of the discussants is to communicate supportiveness. The role of the observer is to give the two discussants feedback concerning how successfully they communicated supportiveness to each other. An observation sheet is provided for the observer's use.

2. The two discussants spend 10 minutes discussing a topic assigned by the instructor. Or they may discuss any topic that is of real interest to the two of them; do not spend more than one minute, however, on the selection of a topic to discuss. During the discussion the two participants should be practicing communicating supportiveness. To communicate supportiveness is to avoid statements that could be perceived as evaluative, controlling, strategic, lack of concern, superior and dogmatic. And, instead to be descriptive, oriented towards solving mutual problems, spontaneous, empathic, equal and provisional.

3. At the end of the 10 minute discussion, the observer and the two discussants give the two discussants feedback concerning how well they expressed supportiveness to each other. Be specific.

4. The trio next switches roles so that one of the previous discussants is not the observer and the other two members conduct a discussion. Follow the instructions given in Step 2.

5. Conduct a feedback session according to the instructions given in Step 3.

6. Switch roles once more and conduct another discussion. Follow the instructions given in Steps 2 and 3.

Identical examinations were given in all three sections at the end of four and eight weeks. The first examination consisted of 54 questions while the second examination was comprised of 70 questions. Also during the eighth week, but separate from the examination, a course satisfaction measure was administered to all three sections.

TESTS RESULTS

The results were analyzed using the SAS computer program with the .05 level of significance.

Table 1 provides the means, standard deviation and resulting F score on the first 54 question examination. The resulting F score of 1.78 was nonsig-

Table 1 about here

nificant. This meant that there was no significant difference among the mean test scores for the three classes. An examination of the means in Table 1 does indicate that the Application class scored higher than either of the two other classes but on the 54 item examination the difference between the application class and the exercise class was only slightly more than three points.

Table 2 provides the means, standard deviations and resulting F score for the three classes on the second examination.

Table 2 about here

The resulting F score of 3.20 indicates that subjects enrolled in the three

TABLE I

Means, Standard Deviations and Analysis of Variance of Test Scores on First Examination

Condition	N	Mean	Standard Deviation
Lecture Class	24	36.041	5.908
Exercise Class	14	35.356	4.617
Application Class	22	38.500	5.548

Source	SS	df	MS	F
Between	106.511	2	53.255	1.78*
Within	1709.673	57	29.994	

*P > .05

TABLE 2

Means, Standard Deviations and Analysis of Variance of Test Scores on Second Examination

	N	Mean	Standard Deviation
Lecture	24	47.708	6.104
Exercise	14	43.785	6.423
Application	22	49.135	6.334

Source	df	SS	MS	F
Between	2	251.077	125.538	3.20*
Within	57	2235.906	39.226	

*P < .0482

classes did differ significantly in their mean test scores on the second examination. Again an examination of the means indicates that the application class scored highest and the exercise class lowest. A Newman-Keuls test indicated that the application class mean was significantly different from the exercise class mean but that there was no significant difference between the lecture class and exercise class means or the exercise class and application class means.

The first exam included 18 knowledge questions, 19 comprehension questions and 17 application questions. To even the cells, one knowledge question and two comprehension questions were dropped using content validity as the only consideration.

The second exam included 25 knowledge questions, 27 comprehension questions and 18 application questions. To even the cells 7 knowledge questions and 9 comprehension questions were dropped using content validity as the only consideration.

Table 3 provides the means on the first examination for the cells of knowledge, comprehension and application categories for each of the three classes. Table 4 provides the analysis of variance for type of test question, type of teaching procedure, and the interaction of test question and teaching procedure.

Tables 3 and 4 about here

Inspection of Table 3 reveals two interesting facts. First, students scored highest on the comprehension part of the examination, followed by the knowledge section, and lowest on the application section of the examination. Secondly, the students enrolled in the application class scored highest on the first examination while the students enrolled in the exercise class scored lowest. Table 4 indicates that there was a significant difference among the

TABLE 3

Means for Cells of Knowledge, Comprehension and Application for Each of the Three Classes

	KNOWLEDGE	COMPREHENSION	APPLICATION	OVERALL MEANS
LECTURE CLASS	11.708	11.917	10.417	11.347
EXERCISE CLASS	11.143	11.786	10.571	11.167
APPLICATION CLASS	12.773	12.682	11.182	12.212
OVERALL MEANS	11.967	12.167	10.733	

TABLE 4

Summary of Analysis of Variance for First Examination

SOURCE	SS	df	MS	F	PR > F
Type of Test Question	63.636	2	31.818	6.13	0.0027
Type of Teaching Procedure	37.128	2	18.564	3.57	0.0301
Test by Teaching Procedure	4.438	4	1.110	0.23	0.9196
Error	888.034	171	5.193		

scores of the three classes, with the application class scoring the highest, and there was a significant difference among the scores on the three sections of the examination with the students scoring highest on the comprehension section. The interaction of test question and teaching procedure was non significant.

Table 5 provides the means on the second examination for the cells of knowledge, comprehension and application categories for each of the three classes. Table 6 provides the analysis of variance for type of test question, type of teaching procedure, and the interaction of test and teaching procedure.

Tables 5 and 6 about here

Inspection of Table 5 and 6 reveal the same trend found on the first examination concerning the overall mean scores for the three classes. Again the application classes scored significantly higher than the lecture or exercise classes. But an inspection of the cell means of knowledge, comprehension, and application reveal that students scored significantly higher on the application section of the second examination than on the comprehension section (students scored highest on the comprehension section in the first examination). As Table 6 indicates the difference among type of test question was significant and the difference among type of teaching procedure was significant but the interaction of test question and teaching procedure was non significant.

COURSE EVALUATION RESULTS

A thirteen item course evaluation measure provided scores ranging from 13 to 91. The class taught by the lecture method had a mean course evaluation score of 70.8. The exercise class had a mean of 78.263, and the

TABLE 5

Cell Means for Type of Test Questions
and Type of Teaching Procedure

	Test Questions			
	KNOWLEDGE	COMPREHENSION	APPLICATION	
LECTURE N=24	11.708	11.125	13.083	11.972
EXERCISE N=14	10.929	9.857	11.857	10.881
APPLICATION N=22	12.364	11.864	12.909	12.379
OVERALL	11.767	11.100	12.733	

TABLE 6

Summary of Analysis of Variance for Second Examination

SOURCE	SS	df	MS	F	PR > F
Type of test Questions	79.466	2	39.733	8.04	0.0005
Type of Teaching Procedure	58.920	2	29.460	5.96	0.0031
Test by Teaching Procedure	7.672	4	1.918	0.39	0.8170
Error	845.274	171	4.943		

application class had a mean of 80.455. The resulting F was significant at the .05 level. A Newman Keul's test indicated that the students enrolled in the exercise and application classes rated their classes significantly higher than the students enrolled in the lecture class. But there was not a significant difference between the course evaluation scores of the students enrolled in the exercise and application sections.

An examination of individual score items indicated that on nine of the thirteen items the means showed a linear progression ranging from the lecture class (lowest) through the exercise class to the application class. On the remaining four items the means of the exercise class and application class were reversed, but the lecture class was again rated lowest. On every evaluation item where a significant difference was found it was the exercise and application classes being significantly higher than the lecture class.

DISCUSSION

The results provided an interesting basis for drawing some tentative conclusions. Before discussing these conclusions, it should be carefully pointed out that a number of factors concerning the validity of the results should be kept in mind. The unequal size of the three classes must be carefully noted. This fact is especially crucial concerning the exercise class which had a total of 14 students while the lecture class had 24 students and the application class had 22 students. Also worthy of note is the fact that the exercise class was offered at 8-9:15 while the two other classes were midday classes. Feedback from the students indicated that this time period was not conducive to effective interaction among students. Although the pretest indicated no significant difference among the three classes, the enrollment variation and time differences should cause one to be careful in interpreting the results. It is also important to note that although all three sections were taught by the

same instructor, the instructor was aware of the experimental conditions and the nature of the research project. The procedure section has outlined the differences in teaching procedure used in each of the three classes but a replication would do well to consider involving many instructors with a multitude of classes.

One must also be cognizant of the validity and reliability questions concerning the examinations. The composing of "pure" knowledge, comprehension, and application questions is not an easy task. Careful inspection was made of the item index difficulty scores. Only three questions on the first examination and four questions on the second examination had negative factor loadings. The majority of the questions had loadings ranging from .20 to .70. The researchers plan on continuing to revise the examinations and use them in future semesters.

The results do provide some interesting conclusions. An inspection of Tables 3 and 5 indicate that on both examinations the application class scored significantly higher than either the lecture or exercise classes. It is also interesting to note that the lecture class did not score significantly higher on the knowledge or comprehension sections of either examination when compared to the exercise or application classes. In fact the mean of the application class was higher on both the knowledge and comprehension sections of both examinations than was the means of the lecture or exercise sections. On both examinations the ranking of overall mean scores was exercise, lecture, and application in order of lowest to highest.

The results also indicate that on both examinations there was a significant difference among type of class (lecture, exercise, application) and a significant difference among type of test question (knowledge, comprehension, application) but not a significant interaction effect of type of class and type

of test question. The researchers had expected that the application class would score significantly higher on the application section of the examinations.

The course evaluation results appear to indicate that there is no significant difference in student's enjoyment of a basic interpersonal course when taught by the exercise or application method, but there is a significant difference when taught by the lecture method. Student feedback to the instructor and the instructor's perception of student enjoyment confirms this finding.

At this point it seems safe to conclude that students will enjoy a basic interpersonal communication course more if it is taught by the exercise or application method as opposed to the lecture method and that students will score higher on a cognitive or application examination if they are taught by the exercise or application method. The application method appears to be the most promising based on the results of this study but more research needs to be done before definite conclusions can be drawn.

With the number of students currently enrolled in basic interpersonal communication courses and the sparsity of research in the literature on teaching procedures and examination techniques, the need for more research should be apparent. This study has provided some interesting and useful insights into two of the crucial problems encountered in the basic interpersonal communication course.

REFERENCES

Barr, A., Goodnight, J., Sall, J. and Helwig, J. A User's Guide to SAS 76. North Carolina: SAS Institute Inc., 1976.

Bloom, B. (ed.). Taxonomy of Educational Objectives: Cognitive Domain. New York: McKay, Inc., 1956.

Bochner, A. & Kelley, C. Interpersonal Competence: Rationale, philosophy, and implication of a conceptual framework. Speech Teacher, 22, 1974, 279-301.

Gronlund, N. Stating Behavioral Objectives for Classroom Instruction. New York: Macmillan, 1970.

Johnson, D. Reaching Out: Interpersonal Effectiveness and Self-Actualization. New Jersey: Prentice-Hall, Inc., 1972.

Kerlinger, F. Foundations of Behavioral Research. 2nd edition. New York: Holt, Rinehart & Winston, 1973.

Miller, L. Assessing Student Competence in Interpersonal Communication by Objective Examination: Rationale, Application and Data. Paper presented at the annual Convention of the Central States Speech Communication Association, Chicago, April, 1977.

Patton, B. & Giffin, K. Interpersonal Communication In Action. 2nd edition. New York: Harper & Row, 1977.

Phelps, L. & DeWine, S. Interpersonal Journal. St. Paul: West Publishing Co., 1976.

Tortoriello, T. & Phelps, L. Can students apply interpersonal theory? Today's Speech, 23, 1975, 45-49.